

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An over-coating composition for coating a photoresist composition to provide a vertical photoresist pattern, said over-coating composition comprising (a) an over-coating resin derived from ~~a mixture of acrylic acid and an alkyl acrylate~~ poly(acrylic acid / methyl acrylate), (b) a solvent, and (c) a basic compound.

2. (Original) The over-coating composition according to claim 1, wherein said over-coating resin is a water-soluble polymer.

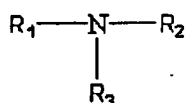
3. Cancelled.

4. (Original) The over-coating composition according to claim 1, wherein pKa of the conjugate acid of said basic compound is about 13 or less.

5. (Original) The over-coating composition according to claim 1, wherein said basic compound is a nitrogen containing compound.

6. (Previously Presented) The over-coating composition according to Claim 1, wherein said basic compound is selected from the group consisting of an amine compound and a hydroxide salt thereof; an amide compound; a urethane compound; and a mixture thereof.

7. (Original) The over-coating composition according to claim 6, wherein said amine compound is of the formula:



wherein each of R₁, R₂ and R₃ is independently H, or C₁-C₂₀ alkyl.

8. (Original) The over-coating composition according to claim 7, wherein said alkyl is selected from the group consisting of unsubstituted C₁-C₂₀ alkyl, C₁-C₂₀ hydroxyalkyl, C₁-C₂₀ alkyl carboxylic acid, C₁-C₂₀ aminoalkyl, C₁-C₂₀ alkylketone, and C₁-C₂₀ alkylester.

9. (Original) The over-coating composition according to claim 6, wherein said amine compound is selected from the group consisting of L-proline, a tetraalkylammonium hydroxide salt, a tri(hydroxyalkyl)amine, and a mixture thereof.

10. (Original) The over-coating composition according to claim 9, wherein said tetraalkylammonium hydroxide salt is selected from the group consisting of tetramethylammonium hydroxide and tetramethylammonium hydroxide pentahydrate.

11. (Original) The over-coating composition according to claim 9, wherein said tri(hydroxyalkyl)amine is triethanolamine.

12. (Original) The over-coating composition according to claim 1, wherein the amount of said basic compound is in the range from about 0.001 to about 0.1 mol% of said solvent.

13. (Original) The over-coating composition according to claim 1, wherein the amount of said solvent is in the range from about 1000 to about 7000% by weight of said over-coating resin.

14. (Withdrawn) A process for forming a photoresist pattern, comprising the steps of:

- (a) coating a photoresist composition on a substrate to form a photoresist film;
- (b) coating an over-coating composition on the upper portion of said photoresist film to form a over-coating, wherein said over-coating composition comprises an over-coating resin, a solvent, and a basic compound;
- (c) exposing said over-coated substrate to light using a light source; and

(d) developing said exposed over-coated substrate.

15. (Withdrawn) The process according to claim 12, wherein said photoresist composition comprises a chemically amplified photoresist resin.

16. (Withdrawn) The process according to claim 15, wherein said chemically amplified photoresist resin is poly(tert-butyl bicyclo[2.2.1]hept-5-ene-2-carboxylate / 2-hydroxyethyl bicyclo[2.2.1]hept-5-ene-2-carboxylate / bicyclo[2.2.1]hept-5-ene-2-carboxylic acid / maleic anhydride).

17. (Withdrawn) The process according to claim 14 further comprising a baking step before and/or after said exposure step (c).

18. (Withdrawn) The process according to claim 17, wherein said baking step is performed at a temperature range of from 10 to 200°C.

19. (Withdrawn) The process according to claim 14, wherein said light source is ArF, KrF, F₂, EUV, E-beam, X-ray or ion beam.

20. (Withdrawn) A semiconductor element manufactured by the process according to claim 14.

21. (Withdrawn) A method for producing a substantially vertical photoresist pattern during a photolithography process, said method comprising coating an over-coating composition of Claim 1 to a substrate on top of a photoresist composition layer prior to subjecting the substrate to a photolithography process.

22. (New) A composition for over-coating a photoresist layer used in a photolithography process wherein exposure of the photoresist to light of a particular wavelength generates acid from a photoacid generator present in the photoresist, said over-coating composition comprising (a) an over-coating resin derived from a mixture of acrylic acid and an alkyl acrylate, (b) a solvent, and (c) a basic compound in an amount sufficient to diffuse into the

underlying photoresist layer and neutralize at least a portion of the acid generated in the upper portion thereof.

23. (New) The over-coating composition according to claim 22 wherein the amount of said basic compound is in the range from about 0.001 to about 0.1 mol% of said solvent.